

NATURAL HISTORY MISCELLANEA

Published by
The Chicago Academy of Sciences
Lincoln Park - 2001 N. Clark St., Chicago 14, Illinois

No. 74

November 24, 1950

The Loss of Jaw-Tags by Toads

W. T. Stille*

During the three seasons of 1948-1950, toads of the dunes area of northern Indiana (*Bufo woodhousii fowleri* Hinckley) have been marked with individually numbered jaw-tags as described by Raney and Lachner (1947). These tags are applied with pliers to the lower jaw of the toad. In its application the tag pierces the thin musculature and skin of the jaw and encircles the dentary bone. The pointed end of the tag then passes into and through the hole in the opposite end of the tag where it is curled over by the pliers, thus making its removal rather difficult. As noted by Raney (1940), some weeks later the frog or toad develops a bone proliferation on either side and under the tag. It is generally held that amphibians so treated are permanently marked. Unfortunately there is good evidence to indicate that this may not always be the case.

The first indication of possible tag loss came after noting that several "new" toads had slight lower jaw deformities on the left hand side the site where the tag was usually placed. These deformities appeared as slight swellings of the jaw bone making it appear twice as thick. The finding of a toad with such a deformity and with a fresh, unhealed injury the width of a tag along the lateral side was considered quite significant. Shortly thereafter a toad was encountered with its tag dangling from the lower quarter portion of an unusually larger jaw deformity (appearing to be about four times the thickness of the jawbone). The tag, normally crimped when applied about one year previously, was lost by this toad three days later in the laboratory. The unusually large bone proliferation of this toad seems to be associated with the downward migration of the tag rather than the lateral tag displacement more often evident.

The movement of foreign objects through muscle, connective tissue and skin is a well-known phenomenon. The loss of objects by movement through

bone, however, seems rather novel.

Dr. D. H. Thompson tells me that fish occasionally lose operculum tags. This seems to be a matter of the tag wearing a slot in the operculum; the progress of the tag is closely followed by regeneration.

LITERATURE CITED

Raney, Edward C.

- 1940 Summer movement of the bullfrog *Rana catesbeiana* Shaw, as determined by jaw-tag method. Amer. Midl. Nat., vol. 23, no. 3, p. 735-745, fig. 1, 2. Raney, Edward C. and Ernest A. Lachner
- 1947 Studies on the growth of tagged toads (*Bufo terrestris americanus* Holbrook). Copeia, no. 2, p. 113-116.